AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for adjusting a treatment plan comprising:

receiving a treatment plan of a target volume;

receiving a digital fluoroscopic image of the target volume; ~~and~~

adjusting automatically the treatment plan based on movement in a video display of the~~ digital fluoroscopic image; and

at least one of saving an adjustment to the treatment plan, and executing the adjusted treatment plan.

2. (Original) The method of claim 1, wherein the adjusting includes adjusting treatment field information to allow for movement in a field.

3. (Original) The method of claim 1, wherein the adjusting includes adjusting gating information in the treatment plan.

4. (Previously Presented) A system comprising:

a treatment planning component to generate a treatment plan;

a simulation component to simulate an execution of the treatment plan on a patient; and

a third component to adjust the treatment plan based on the simulated execution of the treatment plan.

5. (Canceled)

6. (Previously Presented) The system of claim 4, wherein the treatment plan includes a digitally reconstructed radiograph image.

7.   (Previously Presented) The system of claim 6, wherein the simulation component generates digital fluoroscopy images of a target volume to confirm the digitally reconstructed radiograph image.

8.   (Previously Presented) The system of claim 6, wherein the digitally reconstructed radiograph image is imported into the system.

9.   (Previously Presented) The system of claim 6, further comprising:
    a cone-beam computed tomography scanner to generate a digitally reconstructed radiograph image.

10-18 (Canceled)

19.   (Previously Presented) A method of adjusting a radiotherapy simulator system comprising:
    displaying a digital image of a patient based on a treatment plan;
    providing input associated with the digital image; and
    automatically adjusting one or more components of the radiotherapy simulator system based on the input associated with the digital image.

20.   (Canceled)

21.   (Original) The method of claim 19, wherein displaying the digital image includes overlaying a simulator digital image and a digitally reconstructed radiograph image.

22.   (Original) The method of claim 21, further comprising:
    automatically displaying fields of data based on the digital image.

23.   (Previously Presented) The method of claim 19, further comprising:

recalculating the treatment plan based on the input associated with the digital image; and

saving the recalculated treatment plan.

24.   (Previously Presented) The method of claim 19, wherein the providing includes providing a radiation field input.

25.   (Previously Presented) A method of adjusting a treatment plan comprising:
displaying a digital image of a patient based on the treatment plan, wherein the digital image is generated on a treatment simulator system;

providing input associated with the digital image;

automatically adjusting the treatment plan or patient position based on the input associated with the digital image; and

recalculating a treatment plan based on the input associated with the digital image; and

saving the recalculated treatment plan.

26.   (Original) The method of claim 25, wherein displaying the digital image includes overlaying a simulator digital image and a digitally reconstructed radiograph image.

27.   (Original) The method of claim 26, further comprising:
automatically displaying fields of data based on the digital image.

28.   (Canceled)

29.   (Previously Presented) The method of claim 25, wherein the providing includes providing a radiation field input.

30-31 (Canceled)

32.   (Previously Presented) A machine-readable medium having instructions to cause a machine to perform a method of adjusting a radiotherapy simulator system, the method comprising:

   displaying a digital image of a patient based on a treatment plan;

   providing input associated with the digital image; and

   automatically adjusting one or more components of the radiotherapy simulator system based on the input associated with the digital image.

33.   (Canceled)

34.   (Original) The machine-readable medium of claim 32, wherein displaying the digital image includes overlaying a simulator digital image and a digitally reconstructed radiograph image.

35.   (Original) The machine-readable medium of claim 34, further comprising:

   automatically displaying fields of data based on the digital image.

36.   (Previously Presented) The machine-readable medium of claim 32, further comprising:

   recalculating the treatment plan based on the input associated with the digital image; and

   saving the recalculated treatment plan.

37.   (Previously Presented) The machine-readable medium of claim 32, wherein the providing includes providing a radiation field input.

38.   (Previously Presented) A machine-readable medium having instructions to cause a machine to perform a method of adjusting a treatment plan, the method comprising:

displaying a digital image of a patient based on the treatment plan, wherein the digital image is generated on a treatment simulator;

providing input associated with the digital image;

automatically adjusting the treatment plan or a patient position based on the input associated with the digital image;

recalculating a treatment plan based on the input associated with the digital image; and

saving the recalculated treatment plan.

39.   (Original) The machine-readable medium of claim 38, wherein displaying the digital image includes overlaying a simulator digital image and a digitally reconstructed radiograph image.

40.   (Original) The machine-readable medium of claim 38, further comprising:

automatically displaying fields of data based on the digital image.

41.   (Canceled)

42.   (Previously Presented) The machine-readable medium of claim 38, wherein the providing includes providing a radiation field input.

43.   (Currently Amended) A machine-readable medium having instructions to cause a machine to perform a method for adjusting a treatment plan, the method comprising:

receiving a treatment plan of a target volume;

receiving a -digital fluoroscopic image of the target volume; ~~and~~

adjusting automatically the treatment plan based on movement in a video display of the digital fluoroscopic image; and

at least one of saving an adjustment to the treatment plan, and executing the adjusted treatment plan.

44. (Previously Presented) The machine-readable medium of claim 43, wherein the adjusting includes adjusting field information to allow for movement in a field.

45. (Original) The machine-readable medium of claim 43, wherein the adjusting includes adjusting gating information in the treatment plan.

46. (Currently Amended) A system comprising:
a means for generating a treatment plan;
a means for simulating the treatment plan on a patient; and
a means for adjusting the treatment plan based on a simulated execution of the treatment plan;
at least one of a means for saving an adjustment to the treatment plan, and a means for executing the adjusted treatment plan.

47. (Canceled)

48. (Previously Presented) The system of claim 46, wherein the treatment plan includes a digitally reconstructed radiograph image.

49. (Previously Presented) The system of claim 48, wherein the means for simulating generates digital fluoroscopy images of a target volume to confirm the digitally reconstructed radiograph image.

50. (Previously Presented) The system of claim 48, wherein the digitally reconstructed radiograph image is imported into the system.

51. (Previously Presented) The system of claim 48, further comprising:
a cone-beam computed tomography scanner to generate a digitally reconstructed radiograph image.

52.   (Currently Amended) A method of performing brachytherapy comprising:

placing a patient on a patient support;

producing an image of the patient using a flat panel imager while on the patient support;

producing a treatment plan for placement of a radiation source in the patient based at least in part on the image while the patient is on the patient support; and

treating the patient according to the treatment plan on the patient support.

53.   (Canceled)

54.   (Canceled)

55.   (Canceled)

56.   (Previously Presented) A radiation simulation system comprising:

a gantry having a radiation source;

a patient support;

a radiation detector; and

wherein said radiation source is at a fixed position relative to the gantry that simulates a distance between a patient and a treatment source in a treatment machine, and wherein said system comprises a simulation component.

57.   (Currently Amended) A radiation simulation system comprising:

a gantry having a radiation source;

a patient support;

a radiation detector; and

means to move the patient support closer to and/or further from the a gantry head as the gantry rotates to maintain a constant distance between the radiation source and a point defined in relation to the patient support.

58.   (Previously Presented) A radiation simulation system comprising:

a gantry having a radiation source;

a patient support; and

a radiation detector;

wherein the gantry comprises a single cast frame, wherein the frame comprises a first elongated portion and a second elongated portion disposed at an angle to one another, and wherein the gantry, the patient support, and the radiation detector are electronically coupled.

59.   (Original) The radiation simulation system of claim 58, wherein the gantry is an aluminum cast gantry.

60.   (Previously Presented) A radiation simulation system comprising:

a gantry having a radiation source, said gantry having an axis of rotation;

a patient support; and

a radiation detector;

wherein a distance from said radiation source to said axis of rotation is a fixed distance that simulates a treatment source to treatment system axis of rotation of a linear accelerator treatment system.